Department of Health and Social Security
and the Welsh Office

Health
Building
Note

1

MC0052

# Buildings for the Health Service

Her Majesty's Stationery Office

# Health Building Note No 1

Because of the general nature of much of this Building Note, its content will be familiar to experienced planners and designers of buildings for the Health Service. Being an introduction to the whole series, it is intended particularly for those who are new to this work; it is likely to be at least as valuable to Districts and to SHAs as to Regions. It may also be helpful in providing, for members of Health Authorities and others less directly involved in building, an overall picture of the activities involved in providing these buildings. It is complementary to the 1986 revision of Capricode.

The photographs in this Building Note have been selected to show the range and nature of recent Health Service buildings. It is hoped that they also serve to indicate that compliance with stringent technical and economic criteria is not incompatible with the design of buildings of architectural quality.

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**Cover:** Ystradgynlais Community Hospital, Powys

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Mayday Hospital, Thornton Heath, Surrey

Kingsclere Health Centre, Hampshire

# 1 Scope

## Introduction

1.1 This Building Note is intended for all those in the NHS concerned with the design of buildings and with those aspects of service planning which influence or are influenced by the buildings in which the services are carried out. The first chapter deals with guidance in general, the second with planning, briefing, and the design processes, and the third with the application of these processes in a District. Chapter 4 sets out in greater detail the availability and nature of the various forms of guidance material.

## Health Building Guidance

1.2 The purpose of guidance on health buildings issued jointly by the Department of Health and Social Security and the Welsh Office, is to draw together the experience gained as a result of the NHS building programme, and of research and development undertaken or sponsored by DHSS and others. It is presented in ways that should be useful to project teams and all concerned with the briefing for and design, operation and evaluation of these buildings. Much of it will be of use to service planners as well as capital planners (see 2.4), both at District and at Regional level.

1.3 This guidance takes many forms, but of particular concern to planners are Health Building Notes and Health Technical Memoranda. The many and diverse forms of guidance, and a full listing of subjects covered, are to be found in the Works Guidance Index (see 4.2), first published in 1983 and since updated annually.

1.4 New guidance is initiated primarily because of new developments in clinical practice, standards and technology, and in ways of organising and delivering health care. It is also influenced by changes in the economic situation and the expectations of the public. Priorities are determined as a result of representations from and negotiation with the NHS and the health professions. Guidance published by DHSS and the Welsh Office is intended to inform the NHS of certain standards for which these Departments are directly accountable, such as costs, and to save each of the 14 Regions and the Welsh Health Common Services Authority (WHCSA) from undertaking research and setting of standards that can more economically be done centrally.

## Health Building Notes

1.5 From 1961 to 1974, Hospital Building Notes were produced by DHSS (formerly MoH) giving guidance on the design of hospitals and setting cost allowances. After the 1974 reorganisation of the NHS, new or revised titles were renamed "Health Building Notes'". In 1981 the first of a new series appeared which will in the course of the next few years supersede all the previous Building Notes, and include some on additional subjects. About seven years after the publication of each HBN, the DHSS (in consultation with the NHS and the professions) will re-examine it with a view to its revision or replacement.

1.6 The new series has cost allowances based on exemplar designs using ergonomically tested activity data, and on standards of construction and finishes based where appropriate on the Component Data Base. Space standards are derived from functionally critical dimensions rather than recommended room areas. This assessment of the needs of patients and staff (to which the NHS contributes) leads to standards of accommodation which will promote the delivery of services in an effective, efficient and economical manner.

1.7 The standards set out in HBNs essentially apply to the provision of accommodation by new building and it is not intended that they should be applied retrospectively to existing stock. However, the principles are equally valid and should be applied, so far as is reasonably practicable, when existing accommodation is being upgraded, or new accommodation is being constructed within an existing building which may previously have been used for other purposes.

1.8 This note provides a general introduction to the series and to some of the major issues in the planning and design of Health Service Buildings. It is closely related to HBN2 ("The Whole Hospital"), HBN3 ("The Design of the Hospital"), and HBN 45 ("External Works"). HBN2 presents guidance on briefing methods and on whole hospital policies which influence the function and design of most departments and services of the hospital. HBN3 deals with the design considerations in "development control planning" (the preparation of the master plan for the whole hospital), such as the physical relationships between departments, logistics and traffic, and strategies for engineering services. Most of the other HBNs are on particular departments or functions of hospitals, but the series includes non-hospital health buildings such as those for General Medical Practice Premises and for the Ambulance Service.

## Functional Units

1.9 The cost allowances which are associated with each HBN are expressed in terms of Functional Units. The money that is made available for construction will, for example, be based in the case of Accident and Emergency Departments on the number of attendances, for Operating Departments on the number of Operating Theatre Suites, and for Laundries on the number of articles processed per week.

Queen Mary's, Sidcup, Kent: Pathology Department

**Scale of Provision**

1.10 The biggest single influence on the capital cost of the building is the number of functional units selected. This decision will also significantly affect running costs: if more accommodation is provided than is needed, there will be excessive heating and maintenance as well as capital costs. The "scale of provision" must be appropriate to the needs of the service at the time that the building is expected to come into use. Extent of likely subsequent growth should be considered, but space that is not needed until later should be provided initially only if subsequent extension would mean the closing down of an essential department (eg the kitchen); economic appraisal is needed in such instances. The effect of possible future shrinkage should also be anticipated: for example, if the demography is such that a reduction in birthrate is likely, maternity wards should be located so that some can subsequently be used for other purposes. Another important factor is balance of provision: if (for example) the number of surgical beds (including day-beds) is not operationally related to the number of operating theatres, there will be underuse in one of these areas. The balance of provision is altering, the most notable changes being, in relation to population, a reduction in bed numbers, and an increase in many diagnostic, treatment and service functions. DHSS guidance is designed to ensure that this kind of change can be achieved without incurring an overall increase in capital or running costs.

1.11 Each HBN contains some indication of how to assess the required amount of accommodation in relation to the service provided. This is based on studies such as those on Space Utilization carried out by Medical Architecture Research Unit.

**Cost Allowances**

1.12 The purpose of cost allowances is to ensure that schemes are designed and built within a predetermined budget. The budget is the basis for subsequent cost control, which ensures that maximum value for money can be obtained. Appraisal of alternative planning and design options should be made to ensure that the most efficient and effective choices are selected.

1.13 Individual Cost Allowances are developed using guidance in the Health Building Notes and cover the basic building and engineering costs of providing an appropriate level of accommodation for a defined size of department or service. The allowances are produced after a thorough evaluation which identifies the optimum accommodation and extent of engineering services which are required. The cost is, therefore, based on an economical planning and design solution.

Homerton Hospital, Hackney, London:
a Education Centre
b Education Centre, Interior
c Main Entrance

a

b

c

a

b

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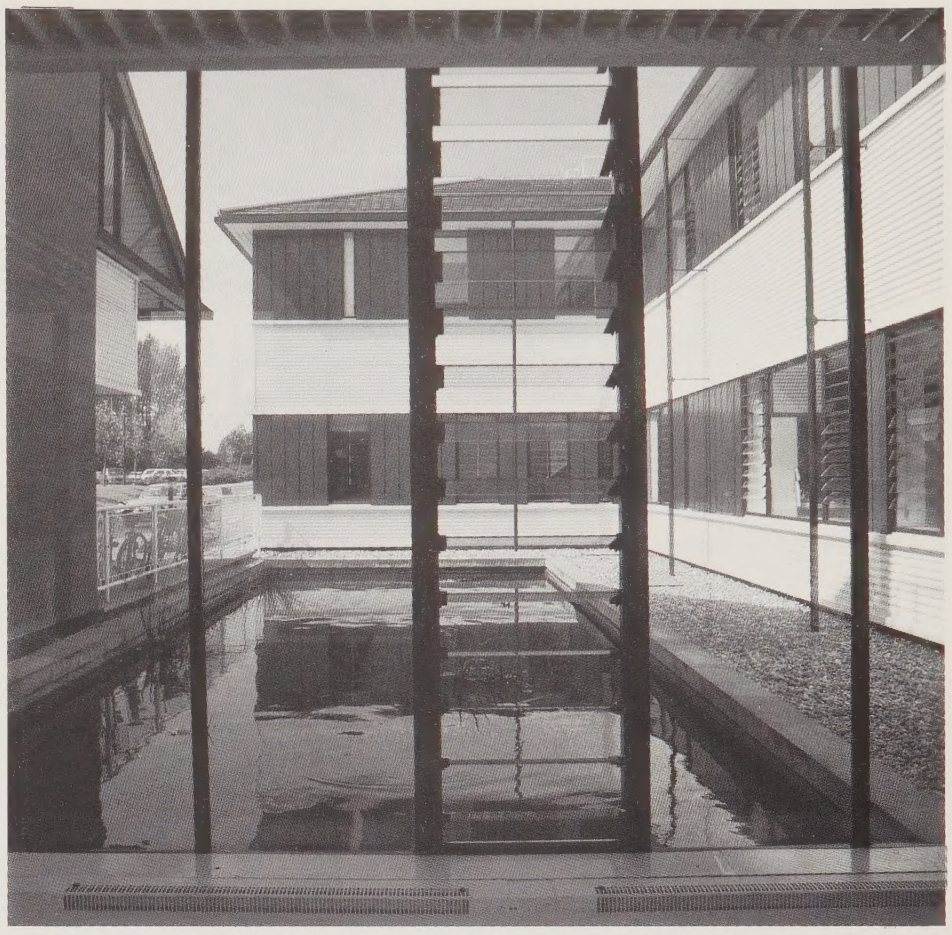
1.14 The use of cost allowances is mandatory and all NHS capital schemes must be designed and built within the limits set. Exceptionally, allowances may be exceeded if a sound case, based on appraisal, is made on an individual scheme and formal approval is obtained; an example is where savings in running costs more than offset the extra capital expenditure, eg – on energy saving measures.

1.15 A further degree of flexibility in schemes is provided for by allowing specific additions for "on-costs" covering the cost of features not included in cost allowances. These are referred to in Capricode under the general headings "communications, external works, auxiliary buildings and abnormals". "Communications" spaces include staircases, lift wells, entrance halls, corridors, etc which provide access to or between the various parts of the building. Engineering spaces as well as the environmental services within the Communications space itself will be included in the on-costs. Certain other services of a centralised nature and any special requirements for the particular scheme will also be included in the on-costs element.

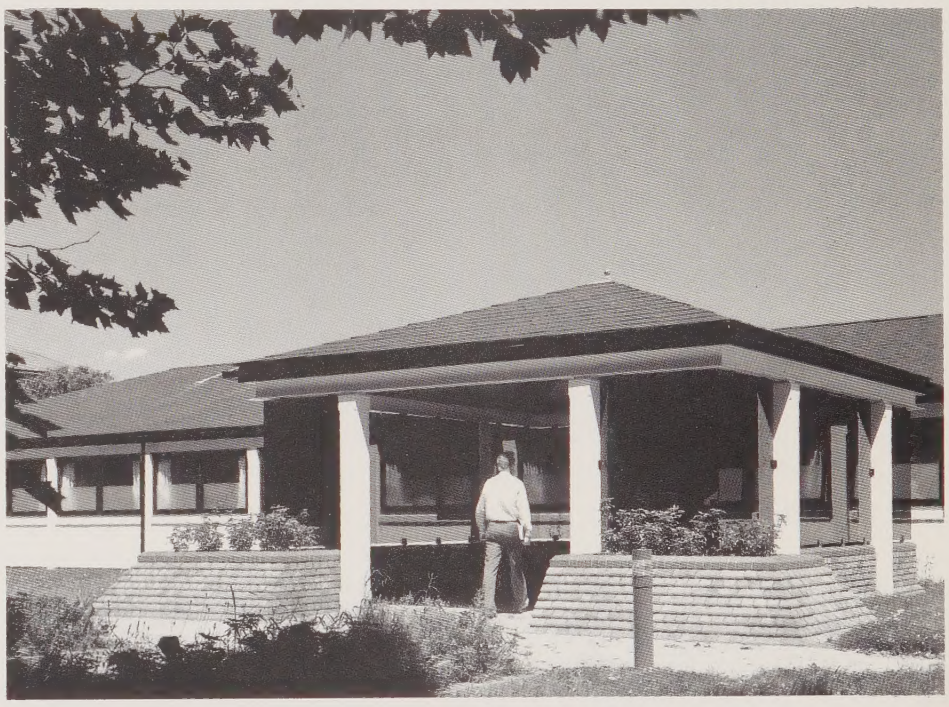
1.16 The Cost Allowance is published as an Annex to the Health Notice under cover of which the Advance Copy of the HBN is issued to the NHS.

**Schedule of Areas**

1.17 HBNs published between 1980 and 1986 included a schedule of areas in an Annex to the Health Notices referred to in 1.16 but not in the HBN itself. Although these Health Notices stated that these areas "do not represent recommended individual room sizes nor specific individual entitlements" and this is further emphasised in the Cost Chapters of each HBN, instances are still reported of a slavish adherence to these sizes being called for, instead of room areas being the outcome of functional analysis and use of activity data. It appears that the deliberate omission of these areas from HBNs has not stopped this practice; subsequent HBNs will include room areas, but with stronger direction against their misuse. The schedule of activity spaces forming part of the Cost Chapter in each HBN will be extended to include the room areas.

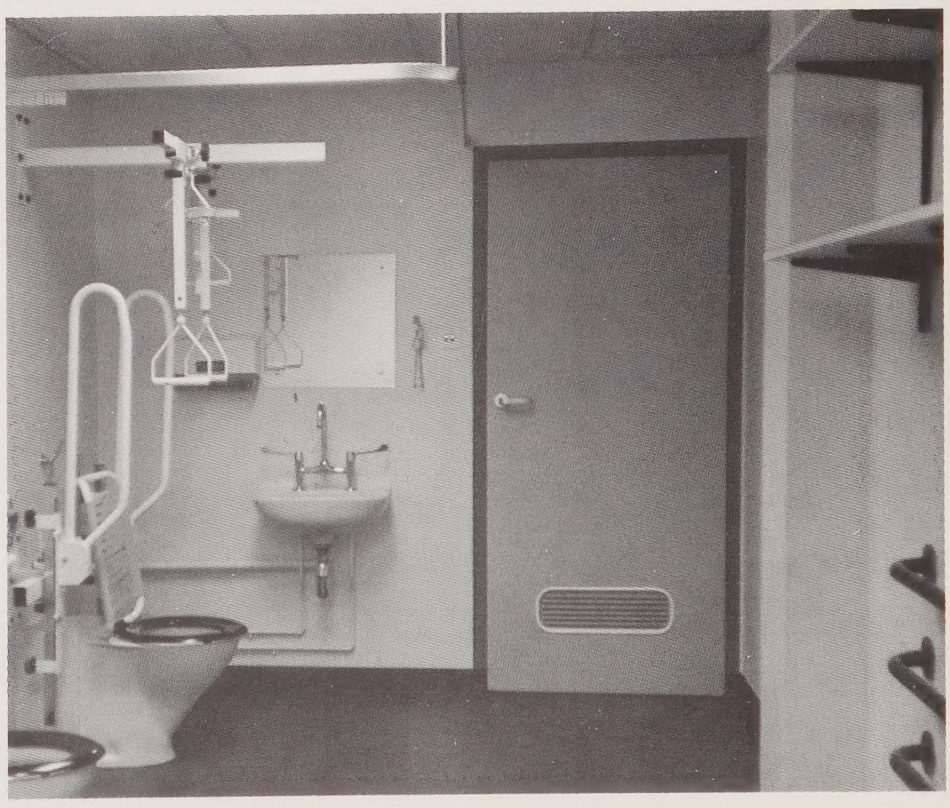


The Maidstone Hospital, Kent



Langthorne Health Centre, Leytonstone, London: Main entrance and pram shelter

York District Hospital: Child Development Unit



Landscaping for hospitals:
a and c West Suffolk Hospital, Bury St Edmunds
b and d Horsham Hospital, Sussex

# 2 Planning and Design of Health Service Buildings

**Strategic Planning**

2.1 The NHS has to be responsive to the changing needs of the population that it serves and to the people who provide the service. The objective of strategic planning is to control these changes and to use them as an opportunity to redeploy resources in order to improve the overall quality and balance of health care provision.

2.2 The process of reviewing the provision of health services within a Region or District may reveal inadequacies or uneven distribution in some care groups. Where a new element of service is to be provided, or an existing one altered, extended or relocated, the options for housing these needs must be appraised before a specific scheme is identified. These needs may be satisfied by a rationalisation of services which involves no building work at all; they may be met by modifying, extending or purchasing existing buildings; or they may lead to a demand for new buildings. Also, the need for some services is reducing; they should not continue unnecessarily to occupy buildings which could be released for conversion to other uses, or their sites sold or leased if not needed for any NHS purposes (ref Davies report on "Underused and Surplus Property in the NHS", HMSO 1983). The occupancy of buildings and their levels of utilization should be kept under constant review and their use rationalised so that they are used in the most economical way. Indeed, the value, the condition, the functional suitability and the levels of utilization of the stock of buildings should be part of the data base from which planning proposals are made.

2.3 The Capital and Asset Accounting Working Party report prepared on behalf of the Association of Health Service Treasurers (para 5.5.7) pointed out that "Judged by the standards of the Western world, the United Kingdom has an excessive stock of outmoded buildings" and that "the ratio of Capital to total Hospital and Community Health Services expenditure of 7½% seems barely adequate on present policies to maintain current standards, let alone make appreciable inroads into building modernization". The incentives they propose include that "RHAs should introduce an annual revenue cash charge to Districts for the use of capital assets," and that "DHAs should allocate this charge for the use of all capital assets (including land and buildings) among their revenue budgets". By these means, there should be encouragement both to dispose of surplus property and to devote a more substantial amount to new building and to renovation.

**The integration of service and capital planning**

2.4 The reports referred to in 2.2 and 2.3 make it clear that, in the absence of Estate data, no strategic plan can be soundly based, and that conversely in the absence of a strategic plan, inappropriate decisions on land use and disposal and on location and use of buildings are likely. It follows that service planning (the process of deciding the priorities between care groups and the allocation of resources – primarily staff and money – to those groups) and capital planning (the organization of land, building and equipment to enable these services to be carried out) must be seen as an integral process. In this way, optimum use can be made of the three basic resources, namely finance, manpower and property. If different people are assigned the tasks of service and capital planning, then very close cooperation between them is essential; this is particularly the case at District Level. The best service planning intentions will fail unless there is a good match between the services and the buildings that they occupy.

2.5 The involvement from the start of health building professionals (architects, engineers, quantity surveyors and estate surveyors) in the work of the appraisal team is vital, if the best use of their skills is to be obtained, eg in the option appraisal stage when alternative means of providing a service are under consideration. In their absence, the best options may go unnoticed. Option Appraisal involves the assessment of different sites, different existing buildings, or the choice between new building or re-use of existing ones. The advice and expertise of building professionals is needed in assessing the quality and potential of existing buildings and services, their condition, estimated useful life, maintenance implications and suitability for the proposed function or functions; this applies also to envisaging the full potential and possible problems in the development of new sites. This advice may come from a member of either the Regional or District Works staff or from private consultants. It is more important that the individual who gives it has the experience and qualifications appropriate to the question in hand and is accountable for the consequences of this advice, than that he should be the holder of any particular office.

a St Francis' Hospital, Hayward's Heath, Sussex: Stores
b St John's Wood, London: Ambulance Station
c Medical Group Practice Building, Fakenham, Norfolk

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b

c

a

b

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Langthorne Health Centre, London: Waiting Area

2.6 Despite the well recognized need for limiting attendance at meetings to those with a perceived significant contribution to make, it is most important that all planners should recognise that when possible futures for the building stock are being discussed the participation of the appropriate building professionals should be sought. It is desirable to establish accountability for the professional decisions taken over the whole project timetable, and for its future impact upon the community it serves. Building professionals involved at an early stage must however avoid the temptation to produce preconceived building solutions before all options have been fully explored.

2.7 Where a new or significantly altered building is proposed, a Management Control Plan must be drawn up, as a framework for the activities required. This constitutes the overall programme and plan of work for the execution and commissioning of a scheme. The plan must take account of Capricode activities and a scheme's requirements in terms of resources and timing. It will normally be expressed in diagrammatic form (network or bar chart) and will be updated regularly to reflect progress made.

a Ellesmere Hospital, Surrey: Geriatric Day Hospital
b Langthorne Health Centre, Leytonstone, London: Main Entrance
c White Hart NHS Conference Centre, Harrogate, North Yorks

**Stages and Procedures**

2.8 Capricode is the mandatory procedural framework governing the inception, planning, processing and control of individual health building schemes. The aim of Capricode is to promote a consistent and streamlined approach to capital development that achieves best use of resources through the selection and construction of relevant and cost effect schemes that open on time and within budget. It identifies the main activities and provides a framework for delegation with effective management and the proper accounting for expenditure and performance.

2.9 The Capricode procedures comprise a series of inter-connected stages for monitoring, controlling and progressing schemes from inception through to construction and evaluation. The formal stages are as follows:

***Stage***

1 Approval in Principle
2. Budget Cost
3. Design
4. Tender and Contract
5. Construction
6. Commissioning
7. Evaluation

2.10 Capricode breaks down these stages into their constituent parts and describes the main activities required. At key points, usually at the end of a stage, a submission or report containing the necessary information about planning, cost, design and progress must be made to management. The authority responsible must be content that the scheme is proceeding satisfactorily within relevant planning/cost parameters (or that good and valid reasons are given for any departure from those parameters) before formally approving the scheme and

authorising a continuation of work. Planning and design teams must progress and control schemes on a day to day basis throughout development, but control by the responsible Authority is best achieved by taking stock at key points in the procedures and formally approving the progression of the schemes on to the next stage. Capricode stages are not contained within "watertight compartments". Rarely will building schemes be the same and in reality the stages will tend to overlap; it is both desirable and necessary that the procedures should be flexible. (On commissioning, refer to "Commissioning Hospital Buildings", a King's Fund Guide, by Graham Millard, 3rd edition 1981).

**The project team**

2.11 As soon as a capital scheme has received approval in principle, a project team should be set up; it may of course have been foreshadowed in investigations (as already described) by a multi-disciplinary Appraisal Team at Capricode stage 1. The planners who have devised the service strategy need to provide a clear statement of operational requirements; some degree of overlap between their work and that of the project team will usually occur. The team's collective function is to prepare the Management Control plan (ref 2.7) and to ensure that it is adhered to, to develop the brief for the designers, to keep a check on progress during design and construction, and to ensure that the building when completed can be properly staffed, equipped and brought into use.

2.12 A project team will normally be led by a project manager, and will usually include at least one planning doctor and nurse, architect, engineer and quantity surveyor. Other representatives of users will be co-opted as necessary, and as appropriate to the content of the scheme; a treasurer and a supplies officer are also often included at an early stage. For all schemes that are large enough to involve the Region, there will usually be some necessary duplication of professions representing the different interests and expertise at Unit (eg medical consultant, hospital administrator), District and Regional level. Nevertheless, the smaller the project team is, the more efficient as well as economical it is likely to be. The composition of teams should be reviewed on completion of each Capricode stage and, if necessary, membership recast to reflect the work and activities of the next stage. Sub-groups may be set up by the project team to develop the brief and design of particular departments or aspects of the scheme.

2.13 The doctors, nurses, administrators and others on the project team who represent the interests of staff using the building will need to acquire a clear understanding of the kind of information which is needed by the building professionals. (Courses are available at NHS training centres to explain to representatives of building users how to make their contribution in this role most effective). They need to explain clearly the nature of the service to be provided, its organisation and the processes that will take place; this is often referred to as an "operational policy", and forms an important part of a design brief which identifies in greater detail the specific activities. It will also serve as the basis for the operational manuals used at the commissioning stage.

2.14 User requirements should not be expressed as a preconceived design solution. (A different situation arises when a Nucleus or other standard design solution is employed – see 3.18; these should be considered together with other options and tested for compatibility with the brief.) The subject of briefing is dealt with more fully in HBN2. Aids to briefing are the Design Briefing System (a checklist approach) and the Activity Data Base, both of which are referred to in chapter 4, and the development of standard briefing material. Those preparing the design brief must have an understanding not only of the particular needs of the present providers of the service, but also of alternative approaches; thus the brief will not be so precisely tailored as to run the risk of being rejected by the successors of the present users. Ergonomic studies and the use of mock-ups may be warranted in some instances.

2.15 The brief evolves through stages 1 to 3 of Capricode; option appraisal prior to approval in principle depends on an outline brief sufficient to enable preliminary building solutions and their costs to be considered. The "Scheme Brief" is further developed in stage 2, and finalized as the "Design Brief" early in stage 3. At each stage further building feasibility studies and cost estimates may lead to questions about the brief, and possibly to its modification. There is thus a cyclical element in the process which continues until a design is arrived at which clearly satisfies the users' needs within acceptable capital and running costs. At this point the brief must be frozen; changes of mind after this stage will lead to uncontrollable increases in the duration and cost of the project.

2.16 The planning, design, contract documentation and site supervision for a major scheme may be carried out by professional staff of the RHA, or, under their direction, by private firms of architects, mechanical and electrical engineers and quantity surveyors. A design team should be set up consisting of building professionals from Region and from any private firms employed; the Regional members are usually members of the Project Team and act as liaison officers on behalf of the client on technical matters. Since virtually no civil or structural engineers are employed by Regions, this work is almost always undertaken by private firms. Smaller schemes may involve only District building professionals, aided by private consulting firms as needed.

2.17 Other building professionals who may make contributions at some stage in many schemes include building and estate surveyors, landscape architects and interior designers. Figure 1 indicates the relative importance of the contribution of the various professions in the different kinds of work or project involved. It also shows how the extent and nature of the contributions of each profession varies at the different stages of a scheme. The column "clients/users" includes medical, nursing and other professions involved primarily at the briefing stage. Of a slightly different nature is the contribution of supplies staff, which should be sought in connection with distribution systems and storage policy; they will also be involved when equipment is being selected and its space and engineering service effects on room layouts are being considered. Domestic managers should be

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| CATEGORY OF ACTIVITY / PROFESSION: | Client/Users | Land/property/ estate surveyor | Building Surveyor | Architect | Mechanical/Electrical Engineer | Structural Engineer | Quantity Surveyor | Landscape Architect | Interior Designer | COMMENTS (Notes with * refer to entries marked * in that horizontal line only.) Some or all functions of building surveyor and interior designer may in some cases be carried out by the architect. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Assessment of value of lands or buildings with view to sale or purchase (includes appraising potential). | | A | *B | **B | | **B | | B | | * Only if buildings on land. ** Only if buildings on land or proposed to be built. |
| 2. Maintenance, redesign and upkeep of grounds. | | A | | | | | | *A | | * Depends on extent of redesign or change of use. |
| 3. Routine maintenance (including ppm) of building and services. | | | A | | A | | | | | This activity is closely related to the work of domestic management. |
| 4. Major decorations to buildings and improvements to fittings and furnishings. | C | | B | B | C | | | | A | |
| 5. Internal improvements without change of use, eg improving sanitary and day rooms, rewiring. | C | | B | B | B | | C | | B | |
| 6. Internal improvements and alterations including change of function. | B | | B | A | B | C | B | | B | |
| 7. Major changes of use and modifications to existing buildings. | A | | C | A | A | B | B | | B | |
| 8. As 7, but also involving some new buildings. | A | | C | A | A | B | A | C | B | |
| 9. Addition of small new buildings on existing hospital site. | A | | *C | A | B | C | B | C | C | * Sometimes occurs, but inappropriate. |
| 10. Major addition to existing hospital. | A | | C | A | A | A | A | C | B | Usually involves some alterations to existing buildings. |
| 11. Phased complete rebuilding of hospital on existing site. | A | | C | A | A | A | A | B | B | Usually means some alterations as enabling works. |
| 12. Minor new building on green field site. | A | C* | | A | B | C | B | C | C | eg Community mental health buildings, Health Centres } * Only if site purchase involved |
| 13. Major new building (phased or not) on green field site. | A | C* | | A | A | A | A | B | B | |

A, B, C, denote major, intermediate, or minor involvement likely, taken as proportion of the total input of that profession. (A blank does not necessarily mean no involvement, but rather no significant input.)

Involvement of building and related professionals

Fig. 1.

consulted on implications of choice of finishes for economic and efficient cleaning. The project manager and treasurer have some involvement in all these activities.

2.18 The design and specification should be worked out in close collaboration with the operational and maintenance staff (as represented by the District Works Officer) who will take over the building on completion. These staff and the District Treasurer should also be fully aware of the expected "occupancy costs" in relation to the type of use. This should obviate the shortsighted approach of designing for cheapest initial cost, which results in ever-worsening maintenance costs, premature obsolescence, and adversely affects staff morale and the service they provide. Instead whole-life costs of all building and engineering components and systems should be the basis of design decisions.

**Quality of design**

2.19 A proper level of professional and technical competence is assumed on the part of all building professionals, whether in private practice or employed by the NHS. Because the technical complexities of hospitals absorb so much of the energy of the designer, there is often a risk of inadequate attention being paid to aesthetic aspects. Health buildings should be attractive visually, both internally and externally and in all aspects of design – colour schemes, finishes, furniture, fabrics, lighting, signs and artwork. The architectural attribute often referred to as "delight" or "grace" cannot be added as a cosmetic afterthought; it results from the creativeness of the designer. It is thus of great importance that, when choosing the architect (and, where applicable) landscape architect or interior designer) that a firm (or within a large firm, or a Region's design office, an individual) is selected with the skill to produce a building which is beautiful as well as functional, soundly constructed, and economical both in capital and maintenance costs. These selection criteria should also lead to a design which, by choice of materials and shape of building, is sympathetic with and complementary to its landscape and to neighbouring buildings.

2.20 A good-looking building accompanied by pleasant landscaping improves morale of staff and patients and can be just as economical as an unattractive one. It is to be hoped that the 'Poor-Law' mentality which assumes that a barren dreariness befits an NHS building, and that an agreeable environment denotes extravagance, is a thing of the past. Works of art enhance the interiors of health buildings; their provision should be incorporated into the architect's brief and the scheme budget. The employment of artists in various media has not only furthered this objective, but has successfully involved patients, staff and volunteers in environmental improvements (ref "Art in the NHS", DHSS, 1983; also "The Arts and a DHA: proposals based on a case study", DHSS, 1985).

2.21 Firms without experience of health building are at a disadvantage if they are called on to undertake sizeable NHS schemes. It is however desirable that the range of firms involved in the Health Building Programme should be widened; Districts have a great opportunity to commission firms that have given evidence of design ability to carry out small schemes for them. If no architect is on the District staff then the advice of the Regional architects' office should be sought, as they maintain a panel of practices. The Regional Engineer and Quantity Surveyor will similarly advise of choice of consultants in their professions.

Maelor General Hospital, Wrexham, Clwyd

Nucleus Projects 1978–86

a Maelor General Hospital, Wrexham, Clwyd: Main entrance
b Lister Hospital, Stevenage, Herts: Maternity Unit, Reception
c The Maidstone Hospital, Kent: Exterior
d Maelor General Hospital, Wrexham, Clwyd: Kitchen area
e The Maidstone Hospital, Kent: Staff Dining Room
f Lister Hospital, Stevenage, Herts: Exterior of Maternity Unit

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# 3 Service and Capital planning for a Health District

**The Pattern of District Services**

3.1 The buildings from which the health service is provided in a typical district may consist of:

1. The District General Hospital (DGH) in a reasonably accessible location, comprising a wide range of services for care of in-patients, and the associated diagnostic, treatment and support functions, grouped together mainly because they are inter-dependent (ref 3.6–3.8).

2. Accommodation elsewhere mainly for longer-stay in-patients, which ranges from large Victorian institutions through adapted buildings and community hospitals to small purpose-built units. These include small residential units, many in ordinary houses, for mentally handicapped people.

3. Day hospitals for mentally ill and elderly patients, generally associated with the in-patient accommodation at the DGH or other hospitals.

4. Out-patient, day-patient, and accident and emergency facilities centred mainly on the DGH; if circumstances justify it, a limited range of out-patient clinics may also be dispersed to peripheral units or primary care buildings.

5. Residential accommodation for those hospital staff whose need has been determined by "on-call", training or other criteria.

6. A multi-user education centre associated with the DGH (the preferred means of fulfilling most of the District's responsibilities for the education and training of all groups of staff).

7. Administrative offices for the district organisation.

8. Ambulance stations in strategic positions, and control centres which may serve a number of districts.

9. Primary Health Care facilities:

   a. Group or individual practice premises provided by GPs for their own use.

   b. Clinics for and provided by the Health Authority.

   c. Health centres, which combine the functions of a. and b., are provided by the HA and may include facilities for dentists, chiropodists, hospital-based consultants, etc.

10. Health Education facilities, comprising accommodation for Health Education staff, and access as required to appropriate places for conducting the Health Education of the public.

11. Support services of a generally industrial nature (stores, laundry, sterile supply, pharmaceutical manufacture, possibly also certain laboratory functions) for which economies of scale are leading to organisation on a whole-district or supra-district basis.

Complementary to these, interactive with them, and often jointly funded with the NHS, are residential homes and day centres operated by the Local Authority social services department. District Service Planning may also take into account private health facilities (eg hospices) and military hospitals which may offer a service to NHS patients. The above list is given as a general example; the size and shape of districts varies greatly, as does their nature – eg from a Northern New Town to a Southern seaside resort – and suitability of services and buildings for their locality is always crucial.

**Regional and Sub-Regional Specialties**

3.2 While the average DGH will be expected to cover a wide range of medical and surgical specialties, there are sound economic reasons for reserving those which are less common or need more specialised resources (eg manpower and equipment) to a few hospitals serving the whole Region. These are often sited at teaching hospitals. The co-ordination of these services is a function of regional planning. Where new or upgraded buildings are required, a greater than usual degree of research is likely to be needed before a brief can be drawn up for the project team. (There are also a few supra-Regional specialties, eg very specialised laboratories, and units for highly infectious diseases, which are planned on a national basis).

a Medical Practice, Bristol, Avon: Mural – Aesop's Fables
b Torbay Hospital, Devon; dragon mural
c and d Greenwich District Hospital, London: Details of ceramic murals of Greenwich history

**Improving the Pattern of District Services**

3.3 The task of planners in devising a health service strategy for their District is to examine the services currently provided, and identify their deficiencies in terms of availability, quality, quantity and location in relation to the needs of the population served. They must appraise various options for rectifying service deficiencies; these may involve changes in the use of manpower, buildings and equipment. Overprovision of buildings must be avoided; it can, at times of financial stringency, lead to the embarrassment of new buildings standing empty. Guidance on quantification, or "scale of provision" is given in each HBN (see 1.10).

3.4 The remedy for particular service deficiencies will not always involve capital resources, but most health care services are delivered from buildings; DHAs were required in HC(83)22 (in Wales, WHC(84)2) to establish an estate data base, ie to undertake a comprehensive review of their stock of existing buildings. They will probably find an inheritance of diverse ages, styles, and original purpose from which a social and architectural history of 100 years or more can be read; some of these buildings can be fully understood only in their historical contexts. Some may be listed as of architectural or historic interest, and (assuming they are to be retained by the NHS) particular attention needs to be paid to the preservation of their distinctive character. Local Authority historic buildings specialists should be consulted if expert advice is required. Special care and sensitivity is required in upgrading such historic buildings, designing extensions to them, or new buildings close to them. Surveys of buildings of Architectural merit, such as that carried out by Jeremy Taylor (see bibliography) are to be recommended. A record of listing, of location in a conservation area, or a pre-1900 date, could be added to the Property Appraisal Summary (Fig. 2). Estate and Property Management Directorate in DHSS has produced a database of all NHS listed buildings: see also paragraph 50 and Appendix 3 of the first report of the House of Commons Environment Committee.

3.5 The Joint DHSS/NHS Advisory Group on Estate Management (AGEM) report entitled "Estate Information System in the NHS" (January 1985) provides essential techniques for assessing and recording the condition of existing buildings. The attached "property appraisal summary" (Fig. 2) shows the five key assessment criteria (functional suitability, utilisation level, energy use, fire/safety, and condition of fabric) as applied to a particular hospital. Functional suitability must take into account the location of the building: however suitable the building is in itself for the present or proposed function, if it is in the wrong place – ie too far from functionally related departments – a low score must be recorded. (The factors influencing the grading of each part of the hospital against each of these criteria are set out more fully in the report; consistency of assessment is important, as is the employment of assessors with appropriate skills and experience). With the aid of this information, it becomes much easier to determine what buildings and land are surplus to requirements, which buildings need to be upgraded and for what purposes, which to be replaced, and where new buildings are required. When the resources of finance and manpower are also incorporated, a coordinated strategy for the district can be determined.

Leeds Chest Clinic

**PROPERTY APPRAISAL SUMMARY**

**Hospital: CHARNLEY CROSSFIELDS**
**Date:**

| BLOCK REF. NO. | FACILITY | | FUNCTIONAL UNITS | AREA ($M^2$) | SUITABILITY | UTILISATION | ENERGY | FIRE/SAFETY | CONDITION | GENERAL COMMENTS | AV REMAINING LIFE (see Note *) | TOTAL COST TO UPGRADE TO 'B' £'000 | COST TO REPLACE WITH NEW £'000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 007 | Wards | Perkins Ward St Martins | 30 bed | 531 | DX | 10 | DX | B | C | Isolated hutted ward | 8 | 234.0 | |
| 007 | Inpatient | Beatrix Ward St Martins | 16 bed | 458 | DX | 5 | DX | B | C | Isolated hutted ward | 8 | 208.0 | |
| 007 | Accomm. | Roberts Ward St Martins | 24 bed | 323 | DX | 0 | C | B | C | Empty | 4 | 143.0 | |
| 001 | | Stoop Ward St Nicholas | 22 bed | 414 | B | 10 | DX | B | C | Hutted ward | 8 | 87.1 | |
| 001 | | VG Ward St Nicholas | 30 bed | 614 | C | 10 | DX | B | C | Hutted ward | 8 | 87.1 | |
| 001 | | Rudolf Ward St Nicholas | 16 bed | 330 | B | 10 | C | B | C | 10 beds used for day stay | 8 | 130.0 | |
| 001 | Outpatients Clinics | OPD ses'ns per wk | 4.6 | 235 | C | 20 | B | C | C | Cramped | 8 | 65.0 | |
| 001 | Patient Day | Pharmacy | 128 bed | 24 | B | 10 | C | C | C | | 4 | 3.9 | |
| 005 | & Rehab. Accomm. | Occupational Therapy | | 160 | B | 10 | D | B | C | Hut | 8 | 46.8 | |
| 001 | | Physio/Hydrotherapy | | 368 | B | 10 | B | B | C | | 4 | 48.1 | |
| 008 | | Splint Workshop | 128 bed | 140 | B | 10 | D | B | C | Separate building. Unique service provided. | 8 | 32.5 | |
| 007 | | School | 16 child | 70 | A | 5 | D | C | C | | 8 | 27.3 | |
| 007 | Admin/Staff Accomm. | Nurse Training School | 4 st'dnt | 425 | B | 5 | B | D | D | Poor fire precaution | 0 | 110.5 | |
| 001,007,003 | | Accommodation | 44 Bedr'm | 3522 | B | 10 | C/B | D | D | Some new, some old. Latter has poor fire precautions. | 0 | 845.0 | |
| 001 | | Kitchen & Dining | 280 meals | 423 | B | 10 | B | C | C | | 8 | 113.1 | |
| 005 | | Social Club | – | 160 | B | 5 | C | B | C | | 8 | 39.0 | |
| 001 | | Sick Bay | 5 beds | – | B | 0 | B | D | – | | | – | |
| 002,004,009, 010,011,012, 013,014,015 | | Others | | 2177 | | – | | ... | C | | 8 | 231.4 | |
| 001 | Diagnostic | X-Ray | 1 room | 98 | C | 10 | B | B | C | Old equipment | 4 | 49.4 | |
| 001 | Accomm. | Theatre | 1 Theatre | 256 | DX | 5 | C | B | C | Almost unusable, new theatre required. | 8 | 325.0 | |
| 001 | | Medical Photo | Small | 50 | ? | 20 | B | B | C | Used 8/10 sessions. | 8 | 14.3 | |
| 001 | Laboratories | Mortuary & PM Room | 3 places | 45 | B | ? | B | B | C | | 7 | 2.6 | |
| 001 | Industrial Zone | Linen | Small | 40 | B | 5 | C | B | C | | 8 | 3.9 | |
| 001 | | CSSD/TSSU | Small | | DX | 20 | C | B | C | Sited within theatre | | 13.0 | |
| 001 | | Works Dept | Small | 281 | B | 10 | C | B | C | | 8 | 16.9 | |
| 006 | | Others | – | 430 | - | | | – | C | | 8 | 98.8 | |
| **TOTALS** | | | | 11574 $m^2$ | | | | | | | | 2975.7 | |

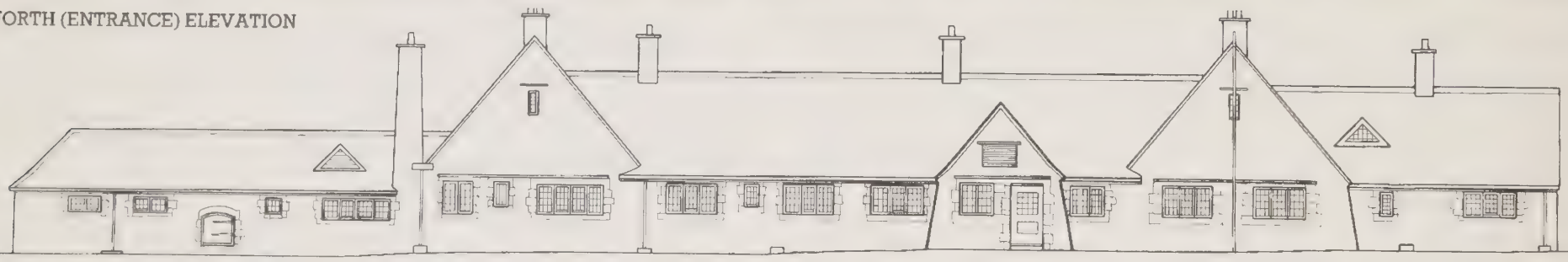
* Average remaining life (years) assumes no significant increase in maintenance.

| FUNCTIONAL STABILITY | UTILISATION | ENERGY | FIRE/SAFETY | CONDITION |
|---|---|---|---|---|
| A Ideal 'user' satisfied | 0 Empty | A Ideal | A Meets HTM standard for new building | A as new |
| B Acceptable without structural change | 5 Underused | B Adequate | B Meets Home Office standard for Existing Buildings | B Adequate |
| C Tolerable; minor change needed | 10 Fully Used | C Change required | C Minor changes required | C Minor change required |
| D Unacceptable: major change essential | 20 Overcrowded | D Major change required | D Dangerous high risk | D Major change required |
| X (suffix) Replacement is only conceivable option. | | X (suffix) Replacement is only conceivable option. | X (suffix) Replacement is only conceivable option. | X (suffix) Replacement is only conceivable option. |

The above descriptions are abbreviated: full definitions are set out in Part II of ESTATECODE.

Fig. 2.

NORTH (ENTRANCE) ELEVATION



Winsford Cottage Hospital, Halwill Junction, North Devon
(Architect: C.F.A. Voysey, 1899)

Seacroft Hospital, Leeds: covered links

**The District General Hospital (DGH)**

3.6 The DGH has for over 20 years been regarded as the major element in the hospital services of a district, and in particular as the location of the accident and emergency department and all or most acute specialties. Over this period, there has been considerable variation in ideas about the optimum and maximum sizes of the DGH, which has made for problems in service planning as well as in building design. The ideal of a single DGH for each District has led to very large hospitals in some of the bigger Districts. There has now been enough experience of the economic, organisational and building problems of very large hospitals to suggest that for a District of average size, an upper range of the order of 600–700 beds is likely to be a reliable basis for long-term planning, provided that it is interpreted with some flexibility. Additional beds may be necessary where there is a need to provide multi-district, regional, or supra-regional services, or, in certain circumstances, additional geriatric or psychiatric beds.

3.7 The number of beds in a hospital is in many ways an unsatisfactory measure of size and range, but in the absence of any adequate alternative, its use seems likely to continue. It should be noted that the shorter length of stay and reduced number of beds per unit of population, together with the steady growth of diagnostic, treatment,

out-patient and day-patient facilities means that a hospital of 600 beds in the 1980s is much bigger and more dynamic than such a hospital 20 years ago. With its larger support departments, it can as a result treat more patients and serve a much greater population. Having taken these considerations into account, and for the reasons mentioned in paragraph 3.6, it may be desirable to exceed 700 beds. In these cases, DHSS would expect to see detailed justification for extending the bed complement.

3.8 There may sometimes be a case for the general hospital functions of a District being divided between 2 or (rarely) more hospitals. Examples are Districts with a very large population or geographical area, especially if there are two distinct and similar sized centres of population, or where the unification of a split-site DGH cannot take place for some time. The nature of each DGH may vary in these cases. These problems are examined in more detail in HBN 3.

**Site Selection**

3.9 In this and the following paragraphs, the use and choice of sites are discussed in the context of the DGH. Many of the same problems arise with smaller health buildings, but they occur in most critical form in the case of the DGH.

3.10 If it has been determined that the needs of the District cannot reasonably be satisfied by change of use or minor modification of existing buildings, and that a major rebuilding programme is required, then the choice of site is a key decision. Ease of access by patients is of primary importance, so it should be central to the population served. A high proportion of patients and their visitors are elderly and many of them do not have or cannot drive cars, so a location served by good public transport is highly desirable; if it is near a bus station, a change of buses can often be avoided. Such a location is likely also to facilitate recruitment of staff, particularly of part-time workers. Nevertheless, a realistic assessment of car-parking needs must be made. As parking will need to be on-site unless a municipal or other car park is nearby, the site must be large enough for it. (A very high density of site development will nearly always lead to high on-costs.) Surplus lands in the large grounds of psychiatric hospitals on the edge of towns have sometimes been used as sites for new DGHs, but if, as often, they are rather inaccessible, their disposal is now recommended.

3.11 Many existing general hospitals are well-sited in the above respects. This may be a good reason for opting for a phased redevelopment of the existing site, rather than the use of a "green-field" site further out. A further advantage is that at any interim phase, all the inter-related functions of the hospital are present on the same site. Delays in subsequent phases can otherwise lead to a protracted period of split-site operation with its attendant operational problems and increased running costs. A phased redevelopment does however lead to inconveniences for the users during demolition and rebuilding, and often to some additional costs for temporary accommodation for functions decanted from one building before a new one is complete. Every effort should be made to minimize the number of phases (ref 3.16), so as to avoid the cost penalties of a large number of small contracts, to shorten the total construction period, and to lessen inconvenience to staff. It is also necessary to ensure that relationships between departments in the completed development are based on functional needs, and not just on where a space is available for a given department at each intermediate phase. This is an example of a situation where choice can only be made after an option appraisal (see 2.3) has been carried out.

3.12 Where it is necessary to use a green-field site, town-planning restrictions, bearing capacity of soil, road access, availability of public utility services and facilities for drainage need expert investigation. Advice of a landscape architect should be sought at the outset on matters such as orientation, micro-climate, ground formation, land drainage, trees and ecological factors. All these considerations should be brought together in a Site Strategy Report; such a report is also necessary for major redevelopments on existing sites.

**The Development Control Plan (DCP)**

3.13 A DCP should be prepared regardless of whether a new or existing site is to be used. This should show all existing buildings and services, the first phase and any immediately subsequent phases of development in detail, and location and access for later phases, with indications of strategy for main communication routes and engineering services. Buildings, services, roads etc should not be provided initially for later phases unless to defer their provision until later would cause major disruption or much greater overall cost. This is because ideas on the content and nature of services provided by the hospital may alter with changes in health service policy and priorities, and because of the cost of wasting capital assets. Life cycle costing is called for in making such assessments, bearing in mind that running costs (especially of staffing) are more significant than capital costs. The feasibility studies forming part of an option appraisal when major development is contemplated may well lead eventually to the DCP for the selected site. Guidance on the Development Control Planning process forms the main part of HBN 3.

3.14 Paragraph 4.9 of the Davies Report recommended that an Estate Control Plan (ECP) should be drawn up for all NHS sites. This has been further defined in Estate Code. Whether the site is one whose use is growing, changing or being reduced (even to the point of eventual disposal), a clear strategy should be set out to ensure that at any time the best use is being made of all resources. For the ECP to be sound, an accurate record of all existing boundaries, buildings and engineering services is needed; references should be made to the Health Authority's "Estate Terrier" which needs to be checked for consistency with the deeds, and updated following all changes. An important function of the ECP is to ensure that any development, however small, is consistent with the agreed strategy for the use of the site. (Often a small, or even short-life building may inhibit the logical development of a whole DGH site). Where considerable new building is envisaged, the DCP will be based on and be the natural development of the ECP.

Figure 3
Model of the Assessed Cash Flow Pattern for the first phase of a Nucleus Hospital at 1983-84 prices

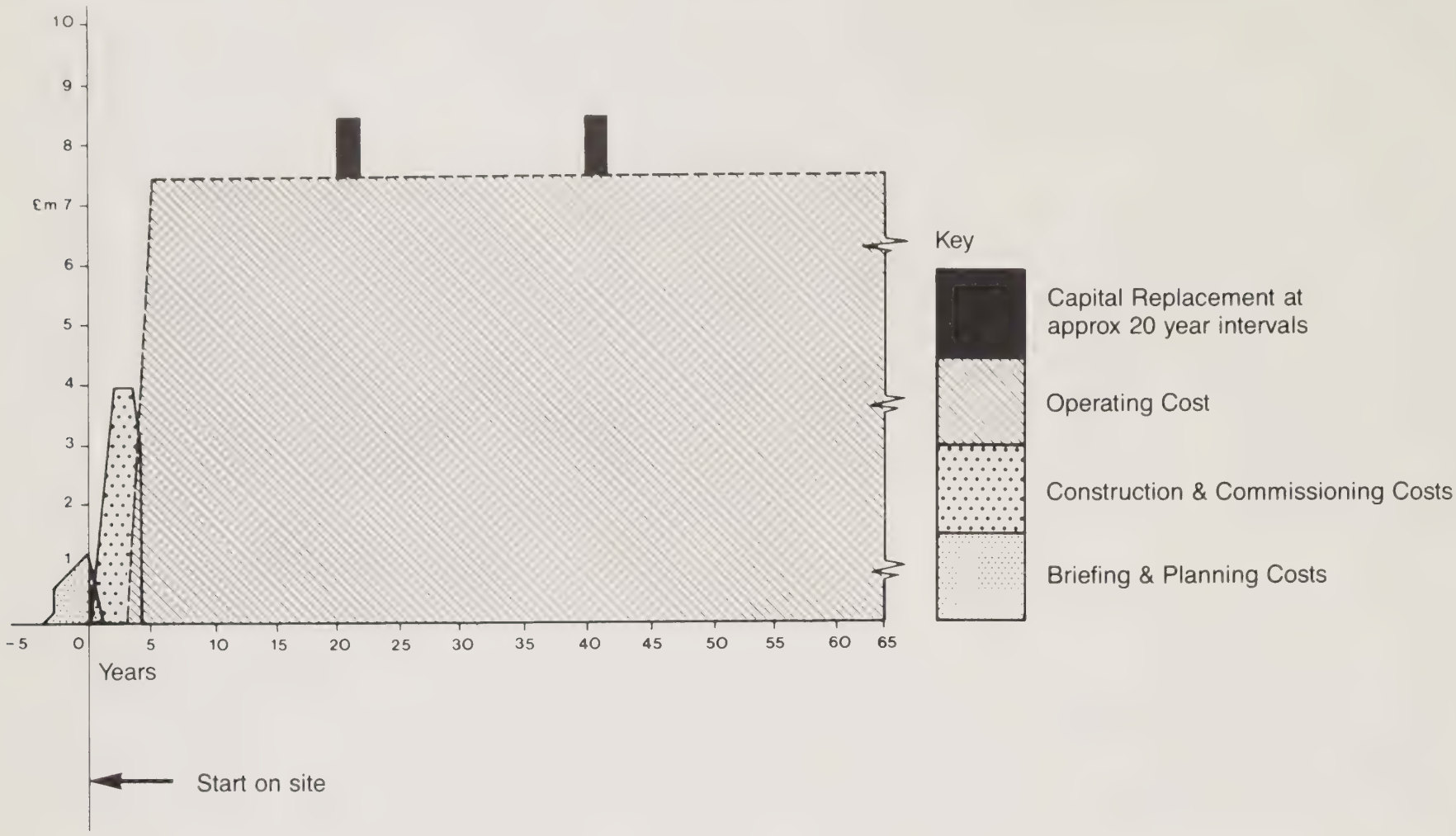
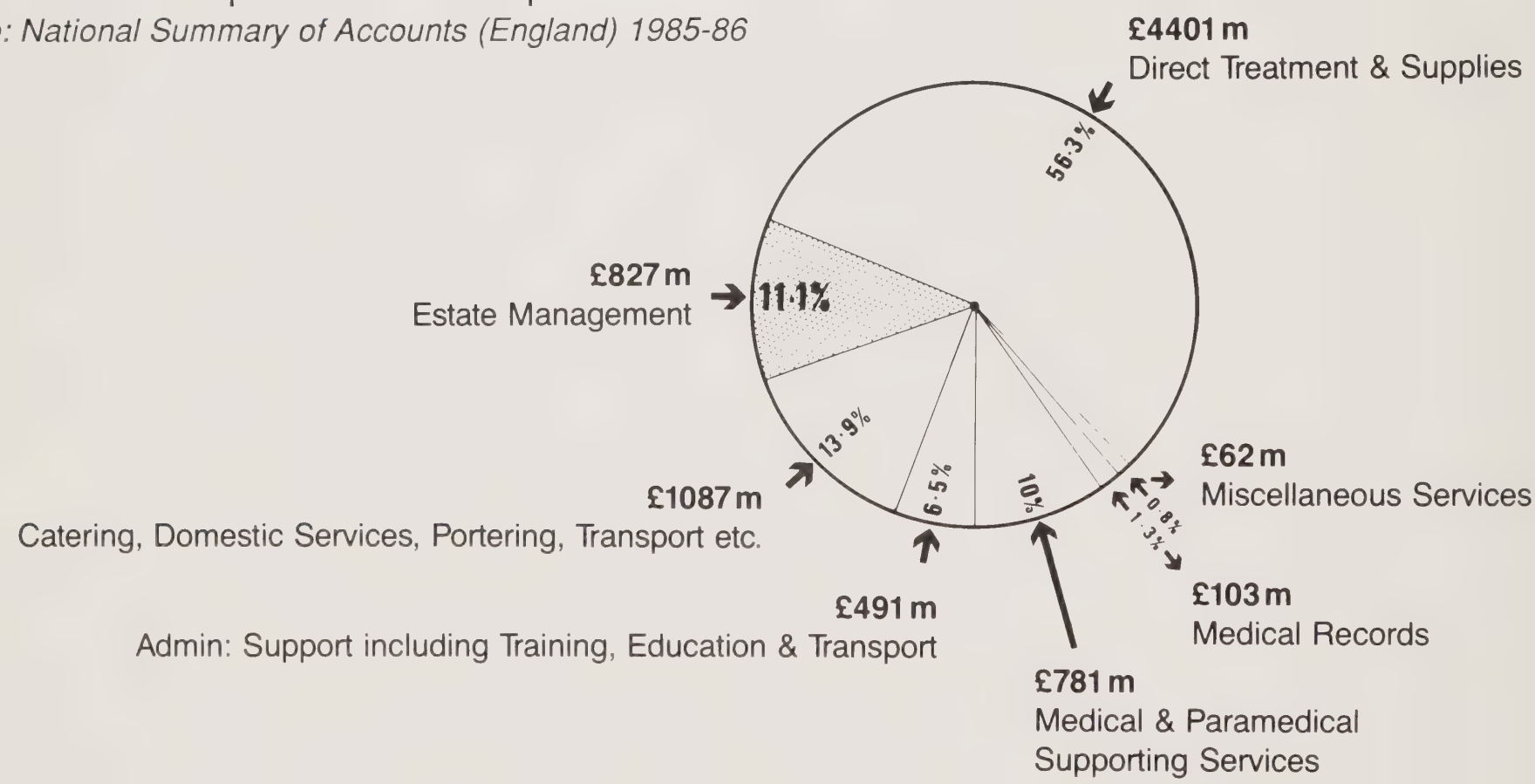



Figure 4
Breakdown of Hospital Services Expenditure
*Source: National Summary of Accounts (England) 1985-86*




**Notes**

1 Total Health Service expenditure includes the sums above plus expenditures on other services such as Blood Transfusion, Community Health etc.

2 The sums above make no allowance for direct credits.

3 Staff salaries and wages account for between 70 and 75 % of total running costs.

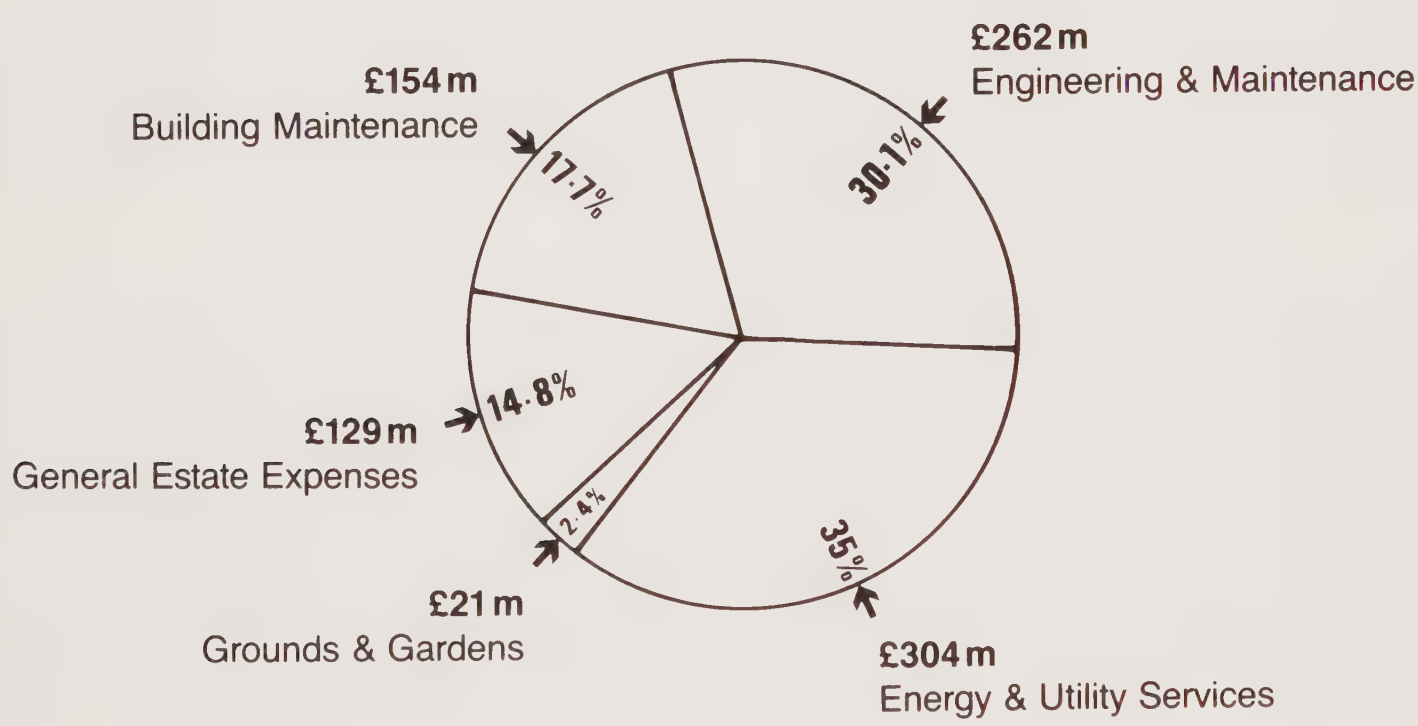
**Total £7815m**

**Running Costs**

3.15 Annex A of HN(81)30 gives a list of justifications to be submitted to support the choice of a preferred option for capital development. Item 3d assumes that additional running costs will be required; this should no longer be taken for granted if the service provided is unchanged. The aim should be to reduce running costs, and new buildings should be more efficient, effective and economical than those that they replace. Performance indicators will help in identifying inefficient functions and in setting new standards. For example, when two or more small X-ray or operating departments are combined, it should not be assumed without careful scrutiny that the number of X-ray rooms or theatres in the new department will be as great as the previous total. The question of scale of provision was discussed in 1.10; it is in avoidance of over-provision that the most significant running cost as well as capital savings are to be made. The way buildings are designed can also influence running costs: the DHSS "DROC" (Designing for Reduced Operating Costs) study will draw attention to specific design measures which are likely to be relevant (see Figs 3, 4 and 5).

3.16 There is growing evidence that the total replacement of an existing hospital, whether on a new site or by redevelopment of an existing one, is likely to be more economic in running costs than the retention of existing buildings with piecemeal additions. This is particularly so if the existing buildings are spread over large distances and not connected: this leads to high transport and portering costs, as with many former fever hospitals now used as DGHs. This economy is of course dependent on careful assessment and control of the scale of provision (ref 1.10). Larger DGHs are usually built in more than one phase, even if on a greenfield site. One reason for this is the tendency for very large jobs to overrun the contract period and incur extra costs; another is the need to share limited capital resources between the various Districts in a Region. However there may be instances where a significant saving in running costs or improved land sale or leasing potential would result from building a new DGH in one phase, and where as a result the financial benefits appear sufficient to warrant a larger than usual financial allocation to one contract. For this to be technically justifiable, it would still be necessary to require that the maximum contract period of 3½ years,

Figure 5
Breakdown of Hospital Service Estate Management Expenditure
*Source: NHS Cost Returns National Summary 1985-1986*
*(unpublished figures which differ slightly in method of compilation from those used for the Estate Management segment of Figure 4)*




**Total £870m**

The Maidstone Hospital Kent: Accident & Emergency Department Resuscitation Room

as stated in Concode, (ref 4.21) is not exceeded; it must, however, be acknowledged that the construction industry can now build much more within such a period than was formerly the case.

**Closures**

3.17 To ensure the likelihood of newly completed buildings coming into full use as soon as possible, it is important that any hospitals on whose closure the assessment of need for the new building was based do in fact close on schedule. Planning should allow enough time for the necessary consultation. (See handbook on "Closures and change of use of health facilities", KEF Project Paper No. 26, 1980).

**Nucleus and other standard designs**

3.18 Several Regions have developed standard designs for a number of the departments or functions of hospitals. The DHSS Nucleus system (ref 4.11) is an extension of this development in that standard designs for many elements of a DGH are planned on a co-ordinated modular basis for easy assembly to form whole hospitals which are however unique in content, construction and appearance; these standard designs can also be used for addition of departments or groups of departments to existing hospitals. All such standard designs are based on stated operational policies. At an early stage of development control planning, especially when Nucleus or other standard units are being added to an existing hospital, the implications of the operational policies and their compatibility or otherwise with the prevailing whole-hospital policies must be examined. It may sometimes be necessary to modify whole hospital or District policies, alter the standard designs, or provide additional accommodation or services to obviate incompatibilities. If Authorities now decide at option appraisal stage, or later, that Nucleus is not to be employed on a major capital development, they are required to explain their reasons to the DHSS (ref. DA(84)7; in Wales, DA letter 22.5.84).

3.19 The use of a standard design will influence the physical form of the DCP. It may also have implications for scale of provision, eg if an in-patient unit comes in mutiples of a certain number of beds, and this does not provide exactly the number of beds initially envisaged for the development. Standard units can, when properly applied (ie fully appropriate to the needs of the hospital, their operational policy implications understood by the users, and their design being compatible with the geography of the site eg aspect and levels) produce considerable savings of capital and of time in planning (which has in itself significant resource implications).

Post Graduate Medical Centre, Stafford DGH, Staffs:

a Library in converted chapel
b Exterior
c Entrance and reception area
d Original features incorporated
e Common Room
f Lecture Room

a

b

c

d

e

f

a

b

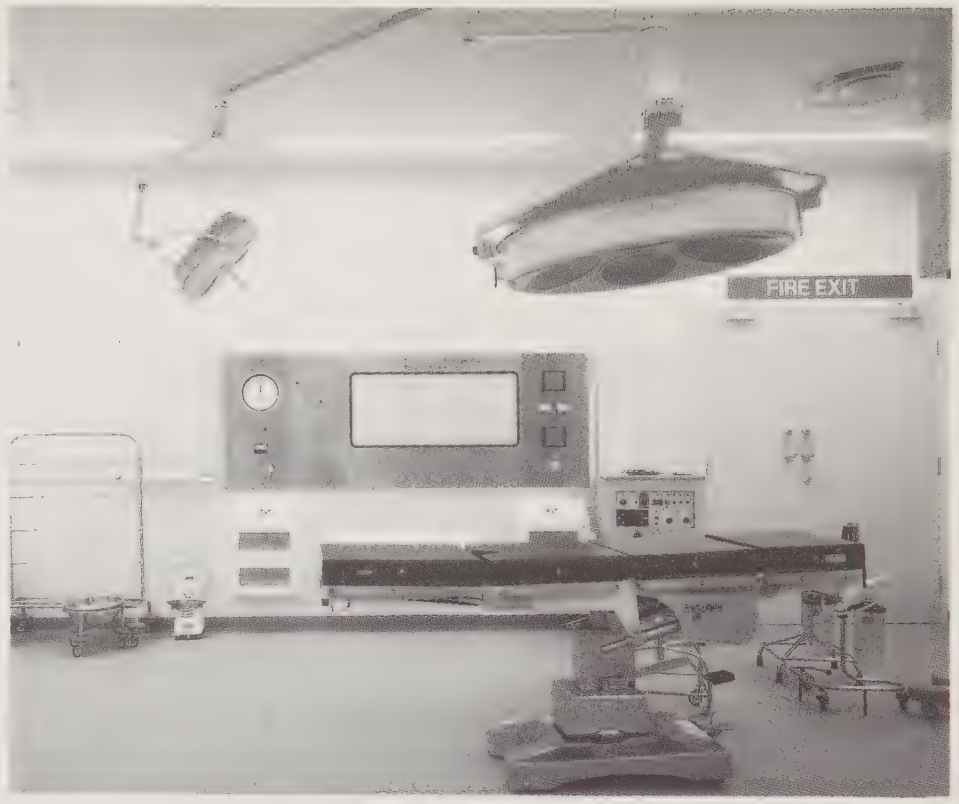
c

d

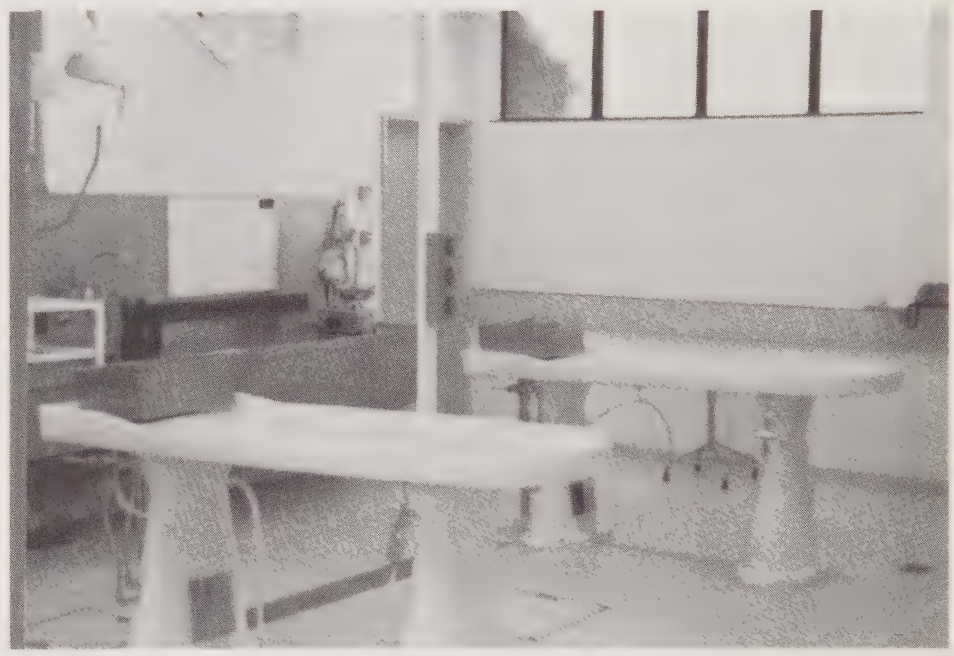
Before any standard design is used, it should be checked for appropriateness to the function in question, and that it is of recent enough date to be relevant to current needs and those of the foreseeable future.

**Evaluation**

3.20 Evaluation enables the experience gained and the lessons learned on a scheme to be fed back into the planning process to improve performance on future schemes. Lessons may emerge, as planning and design proceed, which could be of immediate value to other schemes. Some schemes, particularly those which include significant innovations or those likely to be replicated, warrant a detailed evaluation of performance in use. This will not usually be carried out until the scheme has been fully operational for at least nine months and the staff have had the chance to adjust properly to the new working environment. A further benefit of evaluation is to help the users to understand their new building, and thus to improve the match between it and the functions for which it was designed. This may eliminate the demands that sometimes arise for immediate post-contract alterations to the building; even where a valid case is made out for such alterations, enough time should elapse to ensure that the problems are not just those associated with the normal process of settling into new premises. (Only in rare circumstances should any alterations be carried out before the end of the defects liability period.) DHSS have produced a "Health Buildings Evaluation Manual" (1986) which is being used on several Nucleus projects.




Homerton Hospital, Hackney, London: Operating Theatre



Odstock Hospital, Wiltshire: Mortuary

The Maidstone Hospital, Kent: Main Entrance

Morriston Hospital, Swansea
a Covered walkway
b Main entrance
c Exterior view
d Boilerhouse

# 4 Health Building Guidance: Nature and Availability

### Introduction

4.1 This chapter describes very briefly what guidance is available, how it is used and where it may be obtained. Further information can be found by referring to a comprehensive "Works Guidance Index" which was first issued to all Regional Health Authorities in February 1983 and which is updated annually.

### Works Guidance Index

4.2 The Index identifies all guidance issued concerning planning, design and maintenance of health buildings, estate management and other related matters. The first part of the Index presents a very comprehensive alphabetical list of subjects and will enable the appropriate guidance material to be easily identified. The second part gives full details of the documents (listed by type and nature) referred to in the first part, together with qualifying material. Together these documents form a comprehensive and integrated system of guidance for health building. To obtain the maximum value it is essential that individual documents are not used in isolation but in conjunction with associated material which can be identified from the Works Guidance Index. The Index contains DHSS telephone and extension numbers to which enquiries concerning particular items should be directed.

4.3 Many of the guidance documents such as Health Building Notes and Health Technical Memoranda are published as priced documents through HMSO. Other material is issued direct to the NHS by the DHSS. Copies of all documents should be available from Regional Libraries and from Regional and District Works Departments. The following paragraphs give an indication of the available material.

### Health Building Notes: Purpose and Content

4.4 The purpose of Health Building Notes is to set out the standards of accommodation and services for health buildings which the DHSS, in consultation with the National Health Service, recommends.

4.5 Each Building Note gives information on the needs of a particular hospital department or function. Associated with each Building Note is a mandatory cost allowance, that is to say the basic capital cost for the department in question, to which are added the additional costs of communications, stairs, etc, external works and costs of abnormal items. Building Notes are intended for use at the briefing and design stages of a scheme, whether for new health buildings or for the adaptation of existing premises.

Tatchbury Mount Hospital, Southampton: locally-based mental handicap unit

Dispensary

4.6 A typical Building Note consists of:

The narrative text, which describes the main functions to be performed; the general and detailed planning and design considerations; the mechanical and electrical engineering requirements; and cost information which relates building and engineering costs to the appropriate functions of the departments;

Photographs of design solutions encountered in practice;

Workflow and relationship diagrams;

Ergonomic drawings showing the relevant critical dimensions involved;

Layout drawings, showing notional solutions for particular rooms or spaces.

Also included are a Schedule of Activity Spaces, a Bibliography, and in some cases a glossary of technical terms.

4.7 The "Common Spaces" Building Note falls into a somewhat different category, as it has a wider remit than an individual department or function. It is in 4 volumes, Volume 1 giving detailed design information on rooms that commonly occur in many departments, Volume 2 on corridors and related spaces, Volume 3 on vertical circulation (lifts etc) and Volume 4 on design requirements for disabled people. It is intended for use in conjunction with the other Building Notes.

**Activity Data**

4.8 Complementary to each new Building Note, and used in ensuring that the associated cost allowance is realistic, is a range of activity data relating to each room or space, comprising:

"A" sheets, setting out the tasks or activities that are performed in an "Activity Space" which have planning significance, together with details of environmental requirements;

"B" sheets, providing in narrative and graphical form a more detailed account of activities, and the equipment and engineering terminals required for each user activity.

4.9 Activity data sheets do not form part of the Building Note itself and can be used independently of it. Each Building Note contains lists of reference numbers of appropriate "A" sheets and "B" sheets. Activity data sheets are issued to RHAs, from whom they can be obtained by Districts involved in building projects. Reference may be made to the "Guide to A and B Activity Data Sheets and their use in Health Building Schemes" (DHSS 1980). Computerization of A sheets is now complete, as is the computerization of B sheet texts, and they are available to HAs. (Enquiries about compatibility of computers should be referred to Health Building Directorate – see back of Works Guidance Index.) Development work on B sheet graphics is in progress.

* In preparation

The Maidstone Hospital, Kent: Accident & Emergency Department Supply base and cubicles

**Design Briefing System (DBS)**

4.10 This is a series of documents for each hospital department or function, designed for use in conjunction with the new or revised Building Notes, to help specify user requirements for a design brief. Each of the documents adopts a checklist approach, providing a framework which guides a project team through the consideration of organisational and planning options leading to a list of activity spaces or rooms. This approach aids efficient decision-making, and is particularly helpful for those without experience of brief-writing or of planning of buildings. Their application is confined mainly to planning complete departments, but DBS can be used also to prepare a brief for extensive upgrading of existing accommodation. Copies are obtainable from DHSS, Euston Tower, 286 Euston Road, London NW1.

**Nucleus Hospital System**

4.11 The Nucleus system of standardised hospital planning has been described in 3.18. Considerable benefits in terms of time saving, more efficient use of scarce specialist expertise, and more accurate cost control have been demonstrated in a number of projects throughout England, Wales and Northern Ireland.

4.12 The data available on the Nucleus system falls broadly into the following categories:

Standard whole hospital and departmental design policies
Standard briefing data
Standard planning and engineering diagrams
Standard equipment schedules
Technical guidance on buildings, engineering and costs.
Study Reports

Regular bulletins and a "Users' Guide" specifying the information available are obtainable from the Nucleus Project Information Unit.

a Colchester District General Hospital, Essex
b Ystradgynlais Community Hospital, Powys
c Princess of Wales Hospital, Bridgend, Gwent
d Ystradgynlais Community Hospital, Powys

a

b

c

d

a

b

c

d

**Low Energy Hospital Study**

4.13 A programme of work is in progress researching methods of energy saving for new hospitals, undertaking pilot projects, monitoring and evaluating results for feeding back to design teams and building users in the NHS. A report of the major research study is available from DHSS.

4.14 A demonstration hospital project using the Nucleus system is currently under construction in the Wessex Region and a further demonstration project in the Northern Region is now being designed. A programme for energy monitoring and evaluation is being developed.

**Mental Health Projects**

4.15 A series of evaluation studies and pamphlets are available from DHSS. These describe the buildings that were developed to house a new kind of service away from the large remote hospitals for mental illness (at Worcester) and for mental handicap (at Sheffield and elsewhere). They report on how these buildings are fulfilling their functions.

**Component Data Base**

4.16 The Component Data Base gives information on certain building components with special reference to health service requirements. The CDB covers the following components:

| | |
|---|---|
| Windows | Internal Glazing |
| Ceilings | Sanitary Assemblies |
| Partitions | Signs |
| Flooring | Cubicle Curtain Track |
| Door Sets | Storage Systems |
| Ironmongery | |

Until 1984 the CDB consisted of design guidance and technical data on these components together with lists of manufacturers or installers who had been judged to be acceptable to the NHS in terms of prices and performance.

4.17 In line with Government policy on public purchasing, the system has now been changed to one consisting mainly of design guidance and performance specification. Procurement will be the direct responsibility of health building authorities and these are being advised to make use of the BSI Register of Firms of Assessed Capability. The change was completed in 1985 and all the components have become the subjects of Health Technical Memoranda.

Lambeth Community Care Centre, London:
a View from garden
b External activity area
c View from first floor ward, over terrace to garden
d Ground floor physiotherapy room

**Health Technical Memoranda (HTMs)**

4.18 HTMs give guidance on specific subjects, mainly concerning mechanical and electrical engineering standards. They deal with subjects such as medical gases, staff location systems, maintenance of buildings and engineering systems, space utilisation, and many aspects of safety, including fire. Generally they apply to health buildings as a whole rather than to particular departments or functions. HTMs are published by HMSO.

**Capricode**

4.19 Capricode is the mandatory procedural framework for managing and processing National Health Service building schemes. The procedures reflect the logical sequence of events necessary to progress health building schemes from inception to completion and commissioning. Associated with the new edition of Capricode is a guidance manual on option appraisal.

**CONCISE**

4.20 CONCISE (Computerized Capital Intelligence Service and Exchange) is the computer based integrated information system used by Health Authorities and DHSS to:

a. record key information on schemes;

b. monitor and report scheme progress and costs, and

c. assist scheme planning, budgeting and design including the procurement of consultants' and contractors' services.

**Concode**

4.21 Concode is a comprehensive code of guidance for the procurement of building and engineering works of construction and maintenance. Its first part contains guidance to health authorities on the choice of tender method and type of contract, on statutory requirements, procedures and good practice for the selection of tenderers, tendering procedures, use of standard forms of contract and post contract claims. Its second part deals with the commissioning of private firms of building professionals. Concode was issued in October 1983, under cover of HN(83)24 (in Wales, WHN(83)32) to the NHS only and will be regularly updated. Health Authorities should ensure that building and engineering consultants are made aware of the relevant procedures and advice.

**Estatecode**

4.22 Estatecode is published as a series of documents providing information on all aspects of estate and property management. It includes subjects previously incorporated in Estmancode, which it supersedes.

**Encode**

4.23 Encode provides comprehensive reference material on energy efficiency in the NHS, particularly with regard to the existing estate. It gives guidance on survey and audit methods, on planning a programme and on measuring effectiveness. It also contains information on relevant computer programs, and will report on the outcome of the retrofit energy efficiency projects (REEP).

**Works Information and Management System (WIMS)**

4.24 The NHS/DHSS developed WIMS system comprises suites of computer programs grouped into various "modules", each of which is designed to assist a particular estate management activity.

The WIMS modules are:

1. Asset Management
2. Stores
3. Energy Monitoring
4. Redecoration
5. Budget Monitoring
6. Property Management
7. Annual Maintenance Planning
8. Property Appraisal
9. Maintenance Contracts
10. Residential Property
11. Contract Control
12. Electro-medical Equipment Management
13. Vehicle Maintenance Management

Royal National Orthopaedic Hospital, Stanmore, Middlesex: Spinal Unit

Horsham Hospital, Sussex – Geriatric Day Hospital: Day Dining Room

**Register of Building Legislation**

4.25 There is a large body of legislation (Acts of Parliament, Statutory Instruments and related Codes and Standards) applicable to the design of health buildings. It is not practicable to list all the relevant legislation in this Health Building Note; indeed such a list could rapidly become out-of-date. All legislation thought to affect the design of health buildings is listed in the DHSS Register of Building Legislation (Design, Operation and Maintenance). A copy is held by the DHSS Health Buildings Library at Euston Tower and by each Regional Health Authority. The Register comprises a comprehensive series of indexes to the legislation and the accompanying microfiche collection contains the complete text of all legislation. The Register and the collection are updated, republished and distributed every four months.

**Model Specification**

4.26 A series of Model Specifications for the specialized engineering requirements in health service buildings have been issued nationally and are sufficiently flexible to reflect local needs. The cost allowances for the engineering services in each Health Building Note are based on qualities of material and workmanship described in the Model Specifications.

**Videos**

4.27 As the use of video films for disseminating ideas and information is becoming widespread, a number of these are being produced as an adjunct to building guidance. Among those already available are films on Health Building Guidance generally, on the Design Briefing System (4.9), on the Pinderfields Nucleus prototype wards and on the Low Energy Hospital study.

The London Hospital, Whitechapel, London: Pharmaceutical Department

a Gordon Hospital, Victoria, London: Physiotherapy
b Watford District General Hospital, Herts: Dental Unit

a

b

a

b

Elizabeth Garrett Anderson Hospital, Euston, London

Hither Green Hospital, London: Laundry

The Maidstone Hospital, Kent
a Courtyard, Children's Unit
b Activity area in Children's Unit

# 5 References (Listed in order of appearance in text)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DHSS: Space Utilization in Hospitals (Draft Technical Memoranda, June 1978 and June 1979).

Taylor, Jeremy: "Buildings of Architectural merit in 3 NHS Districts", produced for DHSS, 1984.

| Health building | Architect | Regional Health Authority | Page | Photographer or Artist |
|---|---|---|---|---|
| Gordon Hospital Victoria, London | Floyd Slaski & Partners | NW Thames RHA | 35a | Miller & Harris |
| Hither Green Hospital, London – laundry | Derek Stow & Partners | SE Thames RHA | 37 | Crispin Eurich |
| Ellesmere Hospital, Surrey – Geriatric Day Hospital | Derek Stow & Partners | SW Thames RHA | 10a | R Einzig |
| Langthorne Health Centre, London | Derek Stow & Partners | NE Thames RHA | 7, 10b | Christine Ottewill |
| Queen Mary's Hospital, Sidcup, Kent – Pathology Department | Derek Stow & Partners | SE Thames RHA | 4 | Ben Johnson |
| Horsham Hospital, Sussex – Geriatric Day Hospital | RHA Architect | SW Thames RHA | 6b, 6d, 34 | Crispin Boyle |
| St Francis' Hospital, Hayward's Heath, Sussex – Stores | RHA Architect | SW Thames RHA | 9a | Douglas Morris & Co. |
| St John's Wood Ambulance Station, London | RHA Architect | SW Thames RHA | 9b | |
| Greenwich District Hospital, London | Chief Architect DHSS | SE Thames RHA | 16c, 16d | Philippa Threlfall |
| Medical Group Practice Building, Bristol | MARU in association with Brewer Smith & Brewer | | 16a | Fergus Goodman |
| Torbay Hospital, Devon | Fry Drew, Knight & Creamer | SW RHA | 16b | Chris Ridley |
| Tatchbury Mount Hospital, Southampton, Mentally Handicapped Unit | RHA Architect | Wessex RHA | 28 | |
| Kingsclere Health Centre, Hampshire | RHA Architect | Wessex RHA | 2 | |
| West Suffolk Hospital, Bury St Edmunds | Hospital Design Partnership & DHSS | East Anglia RHA | 6a, 6c | |
| Colchester District General Hospital, Essex | Percy Thomas Partnership | NE Thames RHA | 31a | John Donat |
| Mayday Hospital, Thornton Heath, Surrey | Percy Thomas Partnership | SW Thames RHA | 2 | John Donat |
| Postgraduate Medical Centre, Stafford | Building Design Partnership | West Midlands RHA | 25a–f | Roger Warhurst<br>John Mills, Photography Ltd |
| Medical Group Practice Building, Fakenham Norfolk | MARU in association with Harold Prime Associates | East Anglia HA | 9c | |
| Elizabeth Garrett Anderson Hospital, Euston, London | Design Team Partnership | NE Thames RHA | 37 | |
| Community Care Centre, Lambeth, London | Edward Cullinan, Architects | SE Thames RHA | 32a–d | Martin Charles |
| The Maidstone Hospital, Kent | Powell Moya & Partners | SE Thames RHA | 7a, 15c, 15e<br>24, 27, 30,<br>36a, 36b | John Donat<br>Christine Ottewill |
| York District Hospital, North Yorkshire – Child Development Unit | Fletcher, Ross & Hickling | Yorkshire RHA | 7 | |
| White Hart NHS Conference Centre, Harrogate, North Yorkshire | Fletcher, Ross & Hickling | Yorkshire RHA | 10c | |
| Odstock Hospital, Wiltshire | RHA Architect | Wessex RHA | 27 | |
| The London Hospital, Whitechapel, London | T P Bennett & Partners | NE Thames RHA | 34 | Crispin Boyle |
| Watford General Hospital, Hertfordshire | RHA Architect | NW Thames RHA | 35b | |
| Royal National Orthopaedic Hospital, Stanmore, Middlesex | Mountford Pigott & Partners with DHSS | NE Thames RHA | 34 | |
| Homerton Hospital, London – Education Centre | YRM Partnership | NE Thames RHA | 5a–c, 27 | Martin Charles |
| Seacroft Hospital, Leeds, Yorkshire | E T Hall (1902) | Yorkshire RHA | 20 | Dr J B R Taylor MA, PhD, RIBA "Buildings of Architectural Merit", November 1984 |
| Leeds Public Dispensary (now Leeds Chest Clinic) West Yorkshire | William Hill (1886) | Yorkshire RHA | 18 | Watercolour of Leeds Public Dispensary. Dept. of Medical Illustration St James' Hospital, Leeds |
| Winsford Hospital, North Devon | C F A Voysey (1899) | SW RHA | 20 | |
| Lister Hospital, Stevenage, Hertfordshire – Maternity Unit | Hutchinson, Locke & Monk | NW Thames RHA | 15b, 15f | John Donat |
| Princess of Wales Hospital, Bridgend, Mid Glamorgan | Alex Gordon Partnership | Welsh HCSA | 31c | John Donat |

| Health building | Architect | Regional Health Authority | Page | Photographer or Artist |
|---|---|---|---|---|
| Morriston Hospital, Swansea, West Glamorgan | Welsh Health Common Services Agency | Welsh HCSA | 26a–d | John Donat |
| Yabyty Maelor Hospital, Wrexham, Clwyd | Anthony Clerk Partnership | Welsh HCSA | 14, 15a, 15d | John Donat |
| Ystradgynlais Community Hospital, Powys | Welsh Health Common Services Agency | Welsh HCSA | Cover, 31b, 31d | |

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